UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: April 25, 2002

SUBJECT: **POLREP for the Valleycrest (North Sanitary) Landfill Site Removal Action, Dayton, Montgomery County, Ohio.**

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POLREP #: AREA 1 POLREP #1 with attached photographs of: (1) view of a liquid being sampled from a drum; (2) view of the excavation area; and (3) view of the drum grappler loading excavated drums onto a truck prior to shredding. In addition, attached is the Area 1 drum excavation grid summary.

II. BACKGROUND

Site Number	B543
Response Authority	CERCLA Time Critical Removal, PRP-funded (AOC)
NPL Status	NPL listed 1994, Currently in RI phase with Ohio EPA
Latitude	39°47'14" North
Longitude	84°09'08" West
State Notification	Ohio EPA requested removal - RI/FS concurrent
Start Date	June 23, 1998 (Landfill Gas Abatement System) November 11, 1998 (Area 5 Drum Removal) February 25, 2002 (Area 1 Drum Removal)
Completion Date	July 11, 2001 (Area 5 Drum Removal) January 2003 (Projected for Area 1 Drum Removal)

III. SITE INFORMATION

A. Incident Category

CERCLA incident category: PRP Time Critical Removal at an NPL site

B. Site Description

1. Site location and background

The Valleycrest Landfill site is located at 950 Brandt Pike. The site comprises an area of approximately 100 acres that is separated into east and west portions by north-south trending Valleycrest Drive. The eastern portion of the site comprises approximately 35 acres and the western portion of the site comprises approximately 65 acres. The site is located above the Great Miami Aquifer, which is a sole-source aquifer for the city of Dayton.

The site is located in a mixed urban, industrial, and residential area. The site is bordered on the east and northeast by a residential neighborhood, on the north by several residences. The site is bordered on the southeast by commercial and residential structures and Valley Pike, and on the southwest by the CSX railroad property and residences. The site is bordered on the west by two residences and several industrial facilities, including the Brandt Pike petroleum terminals, Van Dyne Crotty Inc. industrial cleaner facility, and the Hotop demolition landfill.

The site is currently owned by the Keystone Gravel Company of Dayton, Ohio, and was operated as a sand and gravel quarry from before 1935 until the 1970s. In 1966, the site began accepting solid waste and later industrial waste including drums in the eastern portion of the site (Area 1). Filling in the eastern portion of the site continued until approximately 1970. In 1970, the site began accepting waste in the eastern part of the western portion of the site (Area 5) and continued until approximately 1975.

IV. REMOVAL INFORMATION

A. Situation

1. Current situation

Area 5 Drum Removal
From November 1998 through July 2001, a removal action involving the removal of subsurface drums and drum carcasses, drummed contents, and industrial waste was completed. The work was conducted pursuant to an EPA Administrative Order by Consent (AOC) signed by the Valleycrest Removal Action Coalition (VRAC) dated September 10, 1998.

Approximately 26,986 subsurface drums were removed from the eighty-two 50-foot by 50-foot grids identified as removal action areas based on geophysical anomalies. Drums containing hazardous waste solid (containing combinations of polychlorinated biphenyls [PCBs], ignitable waste, sulfides, and/or Toxicity Characteristic Leaching Procedure [TCLP] trichloroethylene [TCE], vinyl chloride, lead, tetrachloroethylene [PCE], benzene, methyl ethyl ketone [MEK], and heptachlor epoxide) and solid waste accounted for 67 percent of the total drums removed in Area 5. In addition, drums defined by the Resource Conservation and Recovery Act (RCRA) as RCRA empty drums totaled approximately 33 percent. Drums containing any measurable liquids (containing combinations of flammable liquids, PCBs, and/or TCLP TCE, vinyl chloride, PCE, benzene, MEK, arsenic, barium, cadmium, chromium, and lead) accounted for less than 3 percent of the total drums (totaling approximately 6,700 gallons collected). Liquid waste from an underground storage tank and rinse water used to aid pumping drummed liquids accounted for 2,845 gallons and approximately 4,500 gallons, respectively.

Excavation, stockpiling, and sampling of all non-drummed material was conducted throughout the works to characterize the material and determine the appropriate disposition. Material below RCRA and Toxic Substances Control Act (TSCA) regulatory limits was backfilled, TCLP volatile organic compound (VOC)-impacted material was maintained on site (pending on-site treatment), and other TCLP-impacted soil and debris was sent for off-site disposal. An estimated 40,000 cubic yards of TCLP VOC-impacted soil and debris (greater than TCLP regulatory limits for TCE and PCE) are currently stockpiled on site and have been re-sampled for pending vapor extraction (VE) treatment or backfilling. In addition, approximately 6,900 tons of TCLP TCE soil/debris, 280 tons of TCLP chlordane soil/debris, 320 tons of TCLP lead soil/debris, and 3,110 tons of PCB soil/debris were shipped for off-site disposal.

Area 1 Drum Removal
On February 25, 2002, a removal action involving the removal of subsurface drums and drum contents was initiated. The work is pursuant to an EPA AOC dated September, 10, 1998. De maximis, inc., continues as the primary consultant to the VRAC and continues to have their subcontractor, Conestoga Rovers & Associates (CRA), overseeing day to day operations at the site and writing all site work plans. On December 12, 2001, EPA conditionally approved the Final Area 1 Drum Removal Work Plan.

Landfill Gas System
Due to landfill gas levels at the property perimeter exceeding 5% methane (methane is explosive between 5% and 15%) and pursuant to an EPA AOC dated September 10, 1998, the VRAC contractors initiated work on the installation of a perimeter landfill gas (LFG) abatement system in June 1998. Seven perimeter LFG extraction systems have been installed (along the north, east, south, and southeast site perimeter) and manifolded into an enclosed flare. VRAC contractors are conducting stack testing of the enclosed flare in 2002 and have completed Phase 1 of 2 of the source emission retest event. The LFG abatement system is operated on a daily basis and monitored on a weekly basis. All property perimeter compliance gas probes are less than 5% methane.

Area 5 Soil/Debris Stockpiles

During the month on February, CRA completed re-sampling the seven soil/debris stockpiles from Area 5 drum removal activities. The samples were analyzed for TCLP VOCs per the terms of the Area 5 stockpile remediation work plan.

2. Drum Removal, Landfill Gas System, and Stockpile Remediation Activities

- During the month of **February 2002**, VRAC contractors initiated full-scale drum removal activities in Area 1, including excavation, drum segregation, drum bulking, and sampling. ENTACT, CRA's environmental subcontractor, officially mobilized to the site, providing heavy equipment, equipment operators, and laborers for full-scale drum removal activities. Drum removal activities were initiated in grid L-15 (see attached grid diagram). All excavated soil/debris was stockpiled until a large enough excavation was opened to begin backfilling as the drums were being excavated. Tetra Tech START provided oversight and documentation of drum removal activities. CRA provided perimeter air monitoring during each working day using real-time gas chromatographs (Scentograph Plus II units) at three downwind and one upwind locations. Perimeter air monitoring stations are being analyzed for the following site-specific VOCs: benzene, toluene, ethylbenzene, m-,o-,p-xylene, vinyl chloride, TCE, PCE, methylene chloride, and cis-1,2-DCE. Perimeter air monitoring action levels have been established my the Montgomery County Health Department. Tetra Tech START is providing perimeter air monitoring on a periodic basis using a Miran ThermoSapphIRe unit. CRA began collecting Summa canister air samples at the excavation hole, twice per week, and analyzing the air samples for Method T0-14 analysis, per the EPA-approved work plan. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, City of Dayton, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives.

  The landfill gas enclosed flare combustor operated at four 3-hour cycles per day. Propane continued to be used as a supplemental fuel during flare-outs. Site perimeter compliance probes remained in compliance with methane percentages consistently reading less than 5%. On February 26, 2002, VRAC submitted the revised Phase II Source Emission Retest to EPA.

  During the month of February, all seven soil/debris stockpiles were sampled by CRA for TCLP VOCs as per the terms of the Area 5 stockpile remediation work plan.

- During the month of **March 2002**, VRAC contractors continued full-scale drum removal activities in Area 1, including excavation, drum segregation, drum bulking, and sampling. The following grids were completed: L-15, IJ-15, L-16, K-16, I-16, and J-16. Approximately 2,899 drums have been excavated through the month of March. A total of 1,444 drums were excavated from grid K-16, which was 50 feet by 50 feet and 17 feet deep. CRA used the EM-38 magnetometer in the bottom of grid L-15. An additional 23 drums were located due to the EM-38 survey and an additional two feet below the deepest drum was excavated, per the EPA-approved work plan. Groundwater has been encountered in the other grids which does not allow the use of the EM-38 magnetometer survey. An amendment was approved by EPA stating that when ENTACT has excavated two feet below the deepest drum in a grid and groundwater is encountered and filling the bottom of the grid, then an additional 5 feet will be excavated. The depth of excavation in each completed grid ranged from 15 to 19 feet below ground surface. Excavated drums with liquid or contents not associated with the approved waste profile are being overpacked into 85-gallon drums. All other excavated drums are being shredded by an excavator and placed into rolloff boxes for off-site disposal. Once a rolloff box is filled, CRA collected a 5-point composite for full TCLP, PCB, and hazardous characteristic analysis. Analytical results from the first 17 rolloff box samples have shown TCLP TCE in all 17 rolloff box samples as high as 830 ppm (0.5 ppm limit), TCLP vinyl chloride in 4 rolloff box samples as high as 0.71 ppm (0.2 ppm limit), TCLP chloroform in 1 rolloff box at 8.8 ppm (6.0 ppm limit), and an ignitability of 110°F in 1 rolloff box. EPA-split samples confirmed CRA analytical results. ENTACT is

segregating the empty drums for decontamination. The empty drums will eventually be buried in an area on site yet to be determined. Two stockpiles of excavated soil/debris were compiled and covered with a 16-mil poly liner and will be addressed at the end of Area 1 drum removal activities. All excavated soil/debris is being backfilled into previously completed excavated grids as drums are being excavated from new grids. Tetra Tech START continued to provide oversight and documentation of drum removal activities. CRA continued perimeter air monitoring during each working day using real-time gas chromatographs (Scentograph Plus II units) at three downwind and one upwind locations. Tetra Tech START continued to provide perimeter air monitoring on a periodic basis using a Miran ThermoSapphIRe unit. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, the City of Dayton, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives.

A total of 31 20-cubic-yard rolloff boxes (approximately 620 cubic yards) containing PCB-contaminated soil/debris, remaining from Area 5 drum removal activities, were shipped for off-site disposal at Environmental Quality, Wayne Disposal, Belleville, Michigan. Approximately 10,000 gallons of nonhazardous water, accumulated within the berms of the on-site stockpiles, was shipped for off-site disposal at Perma-Fix, Dayton, Ohio. A total of 8 rolloff boxes containing shredded drums and drum contents were shipped for off-site disposal at Environmental Quality, Belleville, Michigan.

The landfill gas enclosed flare combustor operated at four 3-hour cycles per day. Propane continued to be used as a supplemental fuel during flare-outs. Site perimeter compliance probes remained in compliance with methane percentages consistently reading less than 5%.

CRA completed re-sampling the seven VOC-contaminated soil/debris stockpiles accumulated from Area 5 drum removal activities. A total of 42 samples (a 5-point composite per approximately 1,000 cubic yards of soil/debris) were collected by CRA. The stockpiles were re-sampled to determine the baseline VOC-concentration prior to on-site treatment using vapor extraction. Tetra Tech START provided oversight of re-sampling activities and collected split samples from each stockpile and a composite rubber weather stripping sample from five stockpiles. EPA analytical results showed that weather stripping in stockpiles #3 and #4 have TCLP TCE concentrations of 0.58 ppm and 10.4 ppm, respectively, which is greater than the regulatory limit of 0.5 ppm. In a letter dated March 27, 2002, CRA submitted the analytical results from the stockpile sampling conducted in February. Sampling results showed that soil/debris stockpiles 1, 2, 7, and 11 did not contain VOCs in excess of the TCLP treatment standards and EPA has approved the backfilling of those four soil/debris stockpiles. The stockpiles will be backfilled in the southern end of Area 5. Soil/debris stockpiles 3, 4, and 8 contained VOC contamination in excess of the TCLP treatment standards and will be subject to vapor extraction treatment, in accordance with the terms of the Area 5 stockpile remediation work plan. EPA is currently awaiting a schedule for the backfilling and treatment operations. Soil/debris stockpile treatment activities are required to be completed by March 1, 2003.

- During the first two weeks of **April 2002**, VRAC contractors continued full-scale drum removal activities in Area 1. The following grids were completed: L-17, K-17, J-17, and K-18. Approximately 4,965 drums have been excavated through the first two weeks of April. A total of approximately 1,393 drums were excavated from grid J-17, which is 50 feet by 50 feet and 18 feet deep. CRA has not been using the EM-38 magnetometer because groundwater has been encountered at the bottom of the excavated grids. The depth of excavation in each completed grid ranged from 17 to 19 feet below ground surface. Excavated drums with liquid or contents not associated with the approved waste profile are being overpacked into 85-gallon drums and sampled. CRA is segregating drums with PRP label information and allowing Ohio EPA to review the information prior to disposition of the drum. All other excavated drums are being shredded by an excavator and placed into rolloff boxes for off-site disposal. No new analytical results are being seen in the rolloff box samples. TCLP TCE continued to be seen in all of the rolloff box samples. All excavated soil/debris is being backfilled into completed excavated grids as drums are being excavated from new grids. Tetra Tech START continued to provide oversight

and documentation of drum removal activities. CRA continued perimeter air monitoring during each working day using real-time gas chromatographs (Scentograph Plus II units) at three downwind and one upwind locations. Tetra Tech START continued to provide perimeter air monitoring on a periodic basis using a Miran ThermoSapphIRe unit. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. CRA successfully tested the emergency air horn at noon on Monday, April 1. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, the City of Dayton, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives. CRA replaced or repaired the poly liners covering the soil/debris stockpiles.

A total of 11 rolloff boxes containing shredded drums and drum contents were shipped for off-site disposal at Environmental Quality, Belleville, Michigan.

The landfill gas enclosed flare combustor operated at three cycles of 2.5 hours 'on' and 5.5 hours 'off'. All site perimeter compliance probes remained in compliance with methane percentages consistently reading less than 5% except for TGP1b-c which showed a methane percentage of 17.6%. VRAC contractors immediately initiated a 10-day monitoring period and increased the flow of the LFG system to 170 to 180 cfm. The cause of the elevated methane reading was a piece of broken flex piping which was repaired. The readings on TGP1b-c immediately reduced to 0% methane.

CRA submitted stockpile re-sampling analytical results from the 42 samples collected from the seven VOC-contaminated soil/debris stockpiles accumulated from Area 5 drum removal activities. The stockpiles were re-sampled to determine the baseline VOC-concentration prior to on-site treatment using vapor extraction. EPA currently reviewing the analytical data.

B. Next Steps

1. VRAC contractors to continue full-scale drum removal activities in Area 1, including excavation, drum segregation, drum bulking, and sampling.

2. VRAC contractors will continue operation of the enclosed flare landfill gas extraction system. All LFG system vents and piping have been manifolded into the enclosed flare. Seasonal changes including temperature and moisture fluctuations have caused perimeter methane concentrations to exceed the action level of 5%. Corrections to the LFG extraction system vacuum levels and moisture traps have corrected the problems to date.

3. Continue weekly update meetings with state and local agencies every Wednesday at 1300 hours and with representatives of the VNCC every other Wednesday at 1500 hours.

4. VRAC contractors to continue monitoring temperatures and liner maintenance of soil/debris stockpiles pending proposed on-site treatment activities.

5. EPA Office of Public Affairs will mail out a site bulletin on a bi-monthly basis. In addition, the Valleycrest Landfill site webpage (www.epa.gov/region5/valleycrest/) has been updated.

6. VRAC contractors to backfill soil/debris stockpiles 1, 2, 7, and 11 into the southern part of Area 5.

C. Key Issues

1. A total of 4,965 subsurface drums have been removed to date from Area 1. Approximately **95.8%** of the subsurface drums contained solid or liquid hazardous waste. TCLP TCE levels in drums bulked into rolloff boxes has been documented at greater than 1,660 times the regulatory level of 0.5 ppm.

2. A total of 26,986 subsurface drums have been removed to date from Area 5. Approximately 66% of the subsurface drums contained solid or liquid hazardous waste. TCLP TCE levels in drums bulked into rolloff boxes has been documented at greater than 34,000 times the regulatory level of 0.5 ppm. Area 5 was completed on July 11, 2001.

3. Soil/debris stockpiles 3, 4, and 8 are required to be treated using vapor extraction by March 1, 2003.

V. COST INFORMATION (estimated as of April 2002)

Personnel	Budget	Used to Date	Remaining
START I (TDD #S05-9806-005)	$208,864	$208,864	$ 0
START II (TDD #S05-0012-016)	$150,000	$136,401	$ 13,599
EPA	$300,000	$230,000	$ 70,000
EPA ERT/REAC	$156,158	$156,158	$ 0
TOTALS	$815,022	$731,423	$ 83,599